

MycoNET - SCIENTIFIC PROGRAMME
20th to 22nd May 2022 – La Cristalera – Miraflores de la Sierra (Madrid)
SPAIN

Friday 20th May 2022

Session 1. Genomic and epidemiology of the disease I

Chairperson. Mireia Coscollá

16:00 - 16:50 h: About transcription, translation and adaptation to stress in *Mycobacterium tuberculosis*. **Teresa Cortés**. IBV, CSIC.

16:50 - 17:10 h: Genomic analysis beyond the standard species or approaches: *Mycobacterium abscessus* and long read sequencing. **Sergio Buenestado Serrano**. Hospital General Universitario Gregorio Marañón.

17:10 - 17:30 h: Evaluating the accuracy of the new WHO mutation catalogue to predict antibiotic resistance in *M. tuberculosis* in a low burden setting. **Ana M García-Marín**. Universidad de Valencia.

17:30 – 18:00 h - Coffee Break

Session 2. TB Control strategies

Chairperson. Santiago Ramón

18:00 - 18:30 h: Identifying promising anti-TB compounds for further development using the zebrafish embryo TB model. **Noelia Alonso**. University of Oslo.

18:30 - 18:50 h: Conventional and multiparametric analyses of biomarker's immune expression for the characterization of TB. **Sergio Díaz Fernández**. iGTP.

18:50 - 19:10 h: Isolation and characterization of extracellular vesicles (EVs) from fluidic samples in the context of *Mycobacterium tuberculosis* infection. **Laura Lerma**. Universidad Autónoma de Madrid.

19:10 - 19:30 h: A novel Stratified Medicine Algorithm to predict treatment responses to host-directed therapy in TB patients – The SMA-TB project and clinical trial. **Kaori Fonseca**. iGTP.

19:30 - 19:50 h: Therapeutic efficacy of endovenous live tuberculosis vaccines against established experimental asthma by systemic desensitization. **Silvia Calvo García**. Universidad de Zaragoza.

19:50 – 20:10 h: Forecasting perturbations on *Mycobacterium tuberculosis* transmission trends with mathematical models: from covid19-TB syndemics to the evaluation of new vaccines. **Mario Tovar**. BIFI.

20:30 – Dinner at the meeting premises

Saturday 21st May 2022

Session 3. Physiology and infection I

Chairperson. Jesús Blázquez

7:30-8:45 Breakfast

9:00 – 9:20 h: Dynamin-like proteins are required for secretion of extracellular vesicles and virulence of *Mycobacterium tuberculosis*. **Vivian Salgueiro**. Universidad Autónoma de Madrid.

9:20 - 9:40 h: The expression of the universal second messenger c-di-AMP is regulated by the PhoPR virulence system and has an impact on safety and efficacy of live tuberculosis vaccines. **Elena Campos-Pardos**. Universidad de Zaragoza.

9:40 - 10:00 h: *Mycobacteroides abscessus* and *Pseudomonas aeruginosa* cooperate to evade immune system in cystic fibrosis context. **Victor Campo-Pérez**. Universidad Autónoma de Barcelona.

10:00 – 10:20 h: Development of antibody-drug conjugates to treat TB. **Andrea Escobar**. Universidad Complutense de Madrid.

10:20 – 10:40 h: **Coffee Break**

Session 4. Genomic and epidemiology of the disease II

Chairperson. Darío García de Viedma

10:40 – 11:10 h: Host preference determines in vitro virulence of *Mycobacterium tuberculosis*. **Mireia Coscollá**. Universidad de Valencia.

11:10 – 11:30 h: Inpatient dynamics of early drug resistance acquisition in tuberculosis-HIV coinfection. **Miguel Moreno-Molina**. IBV, CSIC.

11:30 - 11:50 h: Genomic analysis in complex populations helps to clarify unexpected epidemiological scenarios. **Cristina Rodríguez-Grande**. Hospital General Universitario Gregorio Marañón.

11:50 - 12:10 h: Are epitopes conserved? Antigenic diversity through *Mycobacterium tuberculosis* ecotypes. **Paula Ruiz Rodriguez**. Universidad de Valencia.

12:10 - 12:30 h: In Silico Exploration of *Mycobacterium tuberculosis* Metabolic Networks Shows Host-Associated Convergent Fluxomic Phenotype. **Guillem Santamaría**. Universidad de Valencia.

12:30 - 12:50 h: In-depth study of the most successful outbreak of Tuberculosis in Aragon. **Sofía Samper**. Instituto Aragonés de Ciencias de la Salud.

13:00 – 15:00 h – Lunch at the meeting premises

Session 5. Pathogenesis mechanisms

Chairperson. Esther Julián

15:00 – 15:20 h: Enhanced global acquisition of antibiotic resistance by non-canonical mismatch repair deficiency in *Mycobacterium abscessus*. **Isabel Martín-Blecua**. CNB-CSIC

15:20 – 15:40 h: Development of *Mycobacterium tuberculosis* PhoPR reporter strains for screening of potential antivirulence molecules against Tuberculosis. **Juan Calvet-Seral**. Universidad de Zaragoza.

15:40 – 16:00 h: Setting up the Hollow Fiber System Infection Model for Tuberculosis at UNIZAR. **Diana Angélica Aguilar Ayala**. Universidad de Zaragoza.

16:00 – 16:20 h: Effect of rifampicin on the evolution of the *Mycobacterium smegmatis* genome analysed by a mutation accumulation assay. **Esmeralda Cebrián-Sastre**. CNB-CSIC.

16:20 – 16:40 h: Tumour immune microenvironment is dictated by mycobacterial species and their cell envelope composition in a bladder cancer model. **Esther Julián**. Universidad Autónoma de Barcelona.

16:40 – 17:20 h - Coffee Break

17:20 – 19:30 h Free time outdoor activities.*

*19:00 - MycoNET managing meeting. Only Principal investigators.

19:30 – 21:00 h: Poster session and snacks

21:00 – Dinner at the meeting premises

Sunday 22nd May 2022

Session 6. Pathogenesis mechanisms II

Chairperson. M^a Jesús García

7:30-8:45 Breakfast

9:00 - 9:20 h: Multi-scale in-silico approaches to *Mycobacterium tuberculosis* infection: from pathogen's transcriptomics to transmission models. **Joaquín Sanz**. BIFI.

9:20 - 9:40 h: The antipsychotic butyrophenones are inhibitors of the efflux pump Tap in mycobacteria. **Ana Cristina Millán Placer**. University of Zaragoza.

9:40 - 10:00 h: Effect of the growth phase on the transcriptomic response to iron of *Mycobacterium tuberculosis*. **Sogol Alebouyeh**. UAM

10:00 – 10:20 h: *Drosophila melanogaster* as an experimental model to study mycobacterial infections. **María Vidal**. UTE, iGTP.

10:00 – 10:50: Closing lecture. Shortening Buruli ulcer treatment: the BLMs4BU clinical trial. **Santiago Ramón**. Universidad de Zaragoza.

10:50 – 11:00 -**Closing remarks**

Posters*

1. Deciphering the genome content of *Mycobacterium brumae*, a bacterium species with therapeutic potential. **Chantal Renau**. Universidad de Valencia.
2. Evaluation of the specific T cell response against SARS-CoV-2 with an ELISPOT technique during acute phase, convalescence and after vaccination. **Guillem Safont González**. iGTP.
3. Isolation of extracellular vesicles (EVs) in the context of *Mycobacterium tuberculosis*-macrophage infections. **Jose Luis Serrano Mestre**. Universidad Autónoma de Madrid.
4. Resuscitating Promoting Factors (RPF): Method Setup and Understanding Its Role on Predicting the Sterilizing capacity of Antituberculosis Drug Therapies. **Marie Sylvianne Rabodoarivelo**. Universidad de Zaragoza.
5. Modeling inter-individual variation in immune responses in single-cell RNA-seq data. **Ignacio Marchante**. BIFI.
6. Non-coding RNAs changes in the response of *Mycobacterium tuberculosis* to iron availability at stationary phase. **Lucía Vázquez**. Universidad Autónoma de Madrid.
7. Protein-protein interaction networks in the response to growth arrest and iron deprivation in *Mycobacterium tuberculosis*. **Jorge Alberto Cárdenas**. BIFI.
8. Novel serology TB biomarkers based on mycobacterial extracellular vesicles immunogenicity studies. **Sebastian Schirmer and Lucas Rauh**. Ernst-Abbe-University of Applied Sciences, Jena, Germany.
9. Easily applicable modifications to electroporation conditions improve the transformation efficiency rates for rough morphotypes of fast-growing mycobacteria. Víctor Campo-Pérez, Maria del Mar Cendra, **Esther Julián*** and **Eduard Torrents***. Universidad Autónoma de Barcelona.
10. Víctor Campo-Pérez, Sandra Guallar-Garrido, Marina Luquin, **Alejandro Sánchez-Chardi*** and Esther Julián*. Ultrastructural and compositional analyses of internal lipid inclusions in mycobacteria grown under different culture conditions. Universidad Autónoma de Barcelona.
11. Role of mycobacteria-polarized macrophages in bladder cancer treatment. Marc Bach-Griera, Manuela Costa, Margarida Saraiva, and **Esther Julián***. Universidad Autónoma de Barcelona.

*Recommended size 100 cm x 140 cm (W x L).